Part ii. is geological, and contains definitions of various geological terms and the identification of rocks and strata illustrated in the coloured frontispiece of the succession of the stratified formations of the earth's crust. This part also contains many useful tables for horizons, angles of dip, natural sines, cosines, and tangents, quantities of oil per acre for given thicknesses of oil sand, and a host of other useful data.

Part iii. is chemical and physical, giving the specific gravities of crude oils, products, analyses, viscosity, calorific value, specific heat, and the composition of various purifying agents; whilst Part iv. treats of oil production in all its phases. Part v. embraces refining, transport, storage and testing of oils, and the next division goes fully into the uses of petroleum and its products. Part vii. is a mass of information on weights, measures, and other useful data connected with oil, whilst Parts viii. and ix. deal with miscellaneous information and statistics, brought down in most cases as late as 1913, and forming a fitting conclusion to a book which no one in any way interested in oil can afford to be without.

(2) Another extremely useful work is "The Chemists' Year-Book for 1915," compiled by Mr. F. W. Atack, of the Technical Department of Manchester University, and designed to take the place of the voluminous German publications, of which the English chemist has been forced to avail himself in the absence of any complete and up-to-date English collection of chemical data.

In order to secure portability it is published in two volumes—the first, a pocket-book containing a diary, all the more important details of qualitative, volumetric, gas, ultimate, electro-chemical and spectrum analysis, together with tables of the general properties of inorganic and organic substances, useful memoranda, conversion and logarithm tables.

The second volume, which from the absence of a flap is evidently intended more for reference, gives every possible table on the physical constants of gases, liquids, and solids, properties of minerals, and finally a really excellent summary of more technical processes, in which fuel and illuminants, acid and alkali manufacture, oils and fats, brewing, coal tar and its derivatives, synthetic dye-stuffs, and many other manufacturing processes find place.

It is refreshing to find, at a time when so much is being written and said as to the capture of German trade, that so practical a first step has been taken, and every working chemist will welcome this year-book, containing as it does in convenient form 900 pages of most useful data.

GEOGRAPHIC INFLUENCES AND THE OLD TESTAMENT.

Geographic Influences in Old Testament Masterpieces. By Prof. Laura H. Wild. Pp. xiii+182. (Boston and London: Ginn and Co., 1915.) 4*s*. 6*d*.

THE book aims at showing how the physical environment and geographical conditions of a nation are expressed in its literature and history. This fact, notwithstanding its great importance, has been too often forgotten by teachers and perhaps in no case more frequently than in dealing with the older portion of the Bible. One cause of this has been a tendency, with a large section of the Christian church, to regard its older books with an unreasonable reverence, and forgetting that they are the history of a people, who, though the chosen means for imparting great truths to the world, were men and women like ourselves, even the best of whom were liable to human weaknesses. The authoress accordingly seeks to enhance the attractions of Bible teaching by linking its more interesting episodes with the main geographical features of the country—its coastal plain on the one side, and its inland desert on the other, its valleys and its hills —Carmel, Gilboa and Tabor, the cedar-clad slopes of Lebanon and the snowy dome of Hermon, from which the Jordan begins its course, in some respects unique, to its grave in the Salt Sea.

The intention of the book is excellent, but we cannot say so much for its execution. Prof. Laura Wild's comments seldom rise above the commonplace, and we find among them little or no evidence of a personal knowledge of Palestine. For descriptions of its scenery she seems to depend upon quotations from well-known travellers, so that we miss those little graphic touches which add to the life and interest of an account. To some statements also we must take exception, such as that Joseph was "little" when sold into Egypt, for he was over seventeen; that Heber can be described as an Israelite, and that Endor is near the Sea of Galilee. Her knowledge also of natural history and geology leaves something to be desired. It is misleading to call the cyclamen a native of Palestine, for the genus has a wide range, one species being claimed as British, which is at any rate common in many parts of Europe. The lion which Benaiah killed in a cave (he is not said to have been a boy, nor it to have contained snow) is not likely to have been a wanderer from the Jordan valley into the mountains of Judæa, for lions at one time were far from rare in Palestine, or even in Greece, while in prehistoric days they were common in Britain, when the climate was much colder than now.

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The slopes of Pisgah, where Lot is said to have sought refuge in a cave, though they command a view of the Dead Sea, can scarcely have been subject to "volcanic storms of bitumen," which, by the way, is not usually an eruptive product. Whether it is "some thirty thousand years" since the last glacial period in Palestine may or may not be correct, but that was not indicated by the "earth's appearance above the sea," nor was the former unfit for men to live upon until "some five or six thousand years ago." "Sandstone, limestone and chalk," should probably be read "and shale," for chalk, in the strict sense of the word, is not found in Palestine. To say that the Jordan valley is not due to a "rift cut down into the rock by a flowing stream," but "to the original folding of the earth's crust," is both vague and inaccurate, and the peculiar physical features of the Kishon valley, which indirectly have so often made it a battlefield of nations, hardly receive even a passing notice. No doubt "geologically Palestine is a most interesting country with which to become acquainted," but we fear that this book will not do much to bring about so desirable a result.

OUR BOOKSHELF.

The Science of Mechanics: a Critical and Historical Account of its Development. By Prof. E. Mach. Supplement to the third English edition containing the author's additions to the seventh German edition. Translated and annotated by P. E. B. Jourdain. Pp. xiv+106. (Chicago and London: The Open Court Publishing Co., 1915.) Price 2*s.* 6*d.* net.

MACH completed the first edition of "The Science of Mechanics" at Prague in 1883. An English translation (by McCormack) appeared just ten years later, and of this two further editions embodying the alterations made in the successive German editions have been published.

With the seventh German edition (Leipzig, 1912), however, the alterations made were much more numerous and important; and the present volume, which forms a supplement to the third English edition (1907), contains a full account of them, together with some pages of notes due to the translator. It is remarkable that notwithstanding the thirty years which separate the first and seventh editions, Prof. Mach finds himself able to strike identically the same note in his new "conclusion" as he had done in the preface to the first edition. In that preface he undertook that "Mechanics will here be treated, not as a branch of mathematics, but as one of the physical sciences"; whilst in a concluding passage in the present volume he points out that "the doctrines of mechanics have developed out of the collected experiences of handicraft by an intellectual process of refinement . . . we see that the savage discoveries of bow and arrows, of the sling, and of the javelin, set up the most important law of modern dynamics—the law of inertia—long before it was misunderstood with thoroughgoing perversity by Aristotle and his learned commentators."

Mach speculates much as to the validity of the conceptions of absolute space and time, and on the effect of using as a reference system the "fixed" stars. What would have been the consequence had there existed a sufficiency of cosmic dust to render the stars invisible to an observer on the earth? In Mach's opinion the "surroundings in which we live, with their almost constant angles of direction to the fixed stars, appear to me to be an extremely special case, and I would not dare to conclude from this case to a very different one."

It is to be hoped that no library which possesses the third English edition will be without this companion volume.

Report on the Building and Ornamental Stones of Canada. Vol. ii., Maritime Provinces. By Dr. Wm. A. Parks. Pp. xii+264. Plates i–xlv, sketch maps 1–9. (Ottawa: Government Printing Bureau, 1914.)

THIS volume constitutes the third part of the monograph on the building and ornamental stones of Canada, and worthily upholds the high standard established in the earlier portion of the work. The greater part of this report is occupied by a systematic account of the quarries of the maritime provinces and of their products. The stones are considered according to the class to which they belong, *e.g.*, granite, black granite (greenstones), sandstone, limestone, &c., and arranged according to more or less definite geographical areas into which the quarries naturally fall. In order to give prominence to the economic and commercial aspect of the work, the quarries are described under the name of the owner wherever possible. The general plan adopted for the description of individual properties is: (*a*) quarry observations; (*b*) description of the stone, with tests; (*c*) economic remarks and statistics; (*d*) examples of the use of the stone. Sketch maps are given showing the geology and location of quarries in important districts; special mention must be made of the excellent colour-photo plates which show in an admirable manner the colour and appearance of the stones, a feature which should be appreciated by architects.

The Canadian Department of Mines is to be congratulated on the wisdom of undertaking a comprehensive and businesslike statement of the country's quarry resources, and not least, for carrying out a series of systematic tests on the quarry products. Whatever opinion may be held as to the value of such tests, there can be no doubt that when they are made under uniform conditions, and as nearly as possible at one time, their utility is enormously increased. The existence of this monograph should result in a great saving of time, energy, and money on the part of all users of stone in the Dominion.

J. A. H.

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